

REMARKS

This Amendment is responsive to the outstanding Office Action mailed July 30, 2004. A Petition For Extension Of Time is filed concurrently herewith in order to extend the time applicant has to respond for one (1) month, from October 30, 2004, to November 30, 2004. Please charge any fees in connection with this Amendment, and credit any overpayment to Deposit Account No. 14-1270.

Applicants have submitted a terminal disclaimer herewith. Please note, however, that the terminal disclaimer actually disclaims the three (3) days at the end of the term of the 09/860,355, copending and commonly owned application.

Applicants have amended all of the claims to address the claims objections as set forth in paragraphs 3-5 of the outstanding office action, and believes each of claims objected to are now in full compliance with 37 CFR 1.75(c).

Applicants have amended claim 18 to address the issue raised by the Examiner at paragraph 6 of the outstanding office action. Accordingly, applicants respectfully request the withdrawal of the rejection of claim 18 under 35 USC § 101.

35 USC § 112, 2nd Paragraph

Claim 1-18 were rejected in the office action under 35 USC § 112, 2nd paragraph, as suggested by the Examiner at paragraph 2 of the Office Action, and amended claims 1-4, 6, 9 and 10.

In response, applicants have amended each of the pending claims substantially in accordance with the Examiner's statements of paragraphs 7-9 of the outstanding office action. Applicant believes that their amendments of the claims now places the amended claims in conformance with the second paragraph of Section 112, and respectfully requests that the rejection be withdrawn.

35 USC § 102

Claims 1, 6, 16, 17 and 18 were rejected under 35 USC § 102(b) in the outstanding office action as anticipated by US Patent No. 5,274,551 to Corby Jr. (Corby). Claims 2-5, and 7-15 were indicated as allowable if rewritten in independent form. Applicants express their thanks to the Examiner for the indication of the allowability of claims 2-5 and 7-15. However, applicants feel

quite strongly in the patentability of rejected claim 1, and therefore claims 2-5 and 7-15, which depend from claim 1. Hence applicants have opted not to amend claims 2-5 and 7-15 to independent form as suggested, and will instead argue the patentability of claim 1, from which the patentability of claims 2-5 and 7-15 in view of Corby shall stand or fall.

With respect to claim 1, the Examiner asserts that Corby teaches an image processing method for extracting a thread-like structure (GW) represented on the background in a digital noisy original image (IM₁), (Col. 5, lines 9-22) comprising steps of acquisition (1) of the original image data including data (Col 5, lines 8-11) and steps of extraction (2) of pixel strings of a same threadlike structure (col. 6, lines 3-10), operation of a phase to automatically yield the best string from the pixel strings to represent the threadlike structure (col. 6, lines 10-13).

Applicants respectfully disagree for at least the reasons set forth hereinafter.

Applicants claim 1, as amended hereby, sets forth an image processing method for extracting a thread-like structure represented within a digital noisy original image. The method includes acquiring the original image data, extracting pixel strings of a threadlike structure within the original image data, where the extraction operation is based in a relative intensity of pixels in a neighborhood of pixels contained in the original image, and conducting a Phase operation in order to automatically generate one Best String from the pixel strings for representing the threadlike structure..

In contrast, Corby identifies catheter guidewires in an image by calculating second derivative values for each pixel in four (4) principle directions, using rotated variations. Corby appears to require a very large number of calculations to extract/identify pixels representing the catheter in the image. Applicants invention as set forth in claim 1 does not conduct such an operation, but identifies catheter wires, using its extraction operation, based in the relative intensity of pixels in neighborhoods within the image, and implementing a phase operation to generate the best string representative of the wire. While the Examiner asserts that Corby teaches applicants' steps of extracting and conducting a phase operation, applicants, with all due respect, have not found that Corby does teach or suggest such claimed operation. Accordingly, applicants respectfully request that the rejection of independent claim 1 (AS AMENDED) in view of Corby under Section 102(b) be withdrawn.

While claims 6 and 16-18 are also rejected under 102(b) in view Corby, applicant respectfully asserts that claims 6 and 16-18 are patentable for at least the reasons set forth in their argument for the patentability of claim 1, and respectfully request withdrawal of the same rejections of claims 6 and 16-18.

Conclusion

It is clear from all of the foregoing that independent claim 1 is in condition for allowance. Dependent claims 2-18 depend from and further limit independent claim 1 and therefore are allowable as well.

The amendments herein are fully supported by the original specification and drawing, therefore, no new matter is introduced.

An early formal notice of allowance of claims 1-18 is requested.

Respectfully submitted,

By _____
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